

Work Order ID 135555

Wednesday, August 12, 2015 4:03:50 PM

135555

Page 1

Item ID: D4149-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Aft X-Tube Lug Ass'Y
 Start Date: 8/12/15 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 8/12/15 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: u15 Date: AUG 17 2015 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D4149	C

100 0.00
100
 Small Fab Memo 0.00
 Small Fab 1- Assemble as per dwg
 4X 15/09/10 DAS 36 9-89

110 QC5- Inspect part completeness to step on W/O 0.00
110
 QC Memo 0.00
 Quality Control
 (4) SEP 14 2015 DAS 38 9-89

120 Identify as per dwg & Stock Location: 539A 0.00
120
 Packaging Memo 0.00
 Packaging
 4 SEP 14 2015 DAS 6 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 135555***135555***

Page 2

Item ID: D4149-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Aft X-Tube Lug Ass'Y

Stop ***NS2***

Start Date: 8/12/15 Start Qty: 4.00

4

Cust Item ID:

Required Date: 8/12/15 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

QC21- Final Inspection - Work Order Release

0.00

130

QC

Memo

0.00

Quality Control

_____ MUS _____ SEP 15 2015 **20150915**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
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Picklist Print

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Page 1

Work Order ID: 135555

135555

Parent Item: D4149-041

D4149-041

Parent Item Name: Aft X-Tube Lug Ass'Y

Start Date: 8/12/15

Required Date: 8/12/15

Start Qty: 4.00

Required Qty: 4.00

Comments:

IPP Rev:A 10.06.24 new issue DD verf:EC

IPP Rev:B 10.07.22 as per revB DD verf:JLM

11.03.03 as per revC DD verf:JLM

IPP Rev:C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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MS21043-3		Purchased	No			100	Each	638.0000	4	8	DAS		
MS21043-3									**	30			
Nut										9.89			SEP 10 2015

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	80	
103691	80	
FP001	11	
m130673	11	
GA	191	
m130673	15	
m131677	176	
ST304	199	
m131340	199	
ST308	157	
m132551	157	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER :																					

Picklist Print

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Page 2

Work Order ID: 135555

135555

Parent Item: D4149-041

D4149-041

Parent Item Name: Aft X-Tube Lug Ass'Y

Start Date: 8/12/15

Required Date: 8/12/15

Start Qty: 4.00

Required Qty: 4.00

MS21043-4

Purchased

No

100

Each

746.0000

1

12

DAS

30

9-89

SEP 10 2015

MS21043-4

Nut

Location

Loc Qty

Loc Code

FG

40

104603

40

GA

193

m128798

193

ST273A

300

m132803

300

ST304

213

m128818

39

m131697

9

m132382

4

m132536

161

DAS

30

9-89

SEP 10 2015

D3910-1

Manufactured

No

100

Each

32.0000

1

4

DAS

30

9-89

SEP 10 2015

D3910-1

Crosstube Lug

Location

Loc Qty

Loc Code

ST523

32

133421

32

D4091-1

Manufactured

No

100

Each

53.0000

1

4

DAS

30

9-89

SEP 10 2015

D4091-1

Mounting Lug

Location

Loc Qty

Loc Code

ST525

53

132509

14

133927

39

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Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

Picklist Print

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Work Order ID: 135555

135555

Parent Item: D4149-041

D4149-041

Parent Item Name: Aft X-Tube Lug Ass'Y

Start Date: 8/12/15

Required Date: 8/12/15

Start Qty: 4.00

Required Qty: 4.00

D4149-1 Manufactured No

100 Each 8.0000 2 8

D4149-1

Crosstube Lug Plate, Aft

DAS
30
9-89

SEP 10 2015

Location

Loc Qty

Loc Code

ST094

8

125697

1

133970

7

B 135 542 8

D4149-3 Manufactured No

100 Each 2.0000 1 4

D4149-3

Spacer

DAS
30
9-89

SEP 10 2015

Location

Loc Qty

Loc Code

ST094

2

132623

2

B 1355 10

D4149-5 Manufactured No

100 Each 10.0000 1 4

D4149-5

Eyebolt Stud

DAS
30
9-89

SEP 10 2015

Location

Loc Qty

Loc Code

ST103a

10

122937

4

133923

6

4

AN3C12A Purchased No

100 Each 150.0000 2 8

AN3C12A

Bolt

DAS
30
9-89

SEP 10 2015

Location

Loc Qty

Loc Code

GA

87

M128727

87

ST349

63

M128727

63

8

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
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Page 4

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135555

Parent Item: D4149-041

D4149-041

Parent Item Name: Aft X-Tube Lug Ass'y

Start Date: 8/12/15

Required Date: 8/12/15

Start Qty: 4.00

Required Qty: 4.00

AN4C13A	Purchased	No	100	Each	82.0000	3	12	DAS 30 9-89	SEP 10 2015
AN4C13A									
BOLT									

**

Location

Loc Qty

Loc Code

ST344

82

M 13301

②

m132767

82

10

MS20615-4M18	Purchased	No	100	Each	306.0000	3	12	DAS 30 9-89	SEP 10 2015
MS20615-4M18									
Rivet									

**

Location

Loc Qty

Loc Code

GA

306

m123810

306

12

NAS1149C0332R	Purchased	No	100	Each	4,955.000	4	16	DAS 30 9-89	SEP 10 2015
NAS1149C0332R									
WASHER									

**

Location

Loc Qty

Loc Code

FP001

2140

m130325

2140

GA

221

m131618

221

16

ST260a

2000

m132930

2000

ST271

594

m129390

72

m132262

522

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube</td> <td style="width: 15%;">Cross tube</td> <td style="width: 15%;">Water Jet</td> <td style="width: 15%;">Engineering</td> </tr> <tr> <td>Machining</td> <td>Small Fab</td> <td>Prod. Eng. Coord.</td> <td>Quality</td> </tr> <tr> <td>Thermoforming</td> <td>Finishing</td> <td>Rec/Store/Packaging</td> <td>Other</td> </tr> <tr> <td>Large Fab</td> <td>Composite</td> <td>Supplier</td> <td></td> </tr> </table>						Skid-tube	Cross tube	Water Jet	Engineering	Machining	Small Fab	Prod. Eng. Coord.	Quality	Thermoforming	Finishing	Rec/Store/Packaging	Other	Large Fab	Composite	Supplier																																															
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OTHER :																																																																							

Picklist Print

Wednesday, August 12, 2015 4:03:50 PM

Page 5

Work Order ID: 135555

135555

Parent Item: D4149-041

D4149-041

Parent Item Name: Aft X-Tube Lug Ass'Y

Start Date: 8/12/15

Required Date: 8/12/15

Start Qty: 4.00

Required Qty: 4.00

NAS1149C0432R

Purchased

No

100

Each

1,667.000

6

DAS²⁴

NAS1149C0432R

30

WASHER

9-89

SEP 10 2015

Location

Loc Qty

Loc Code

GA

1654

m125807

476

m131467

1178

ST271

13

m131452

13

24

DQA: _____ Date: _____

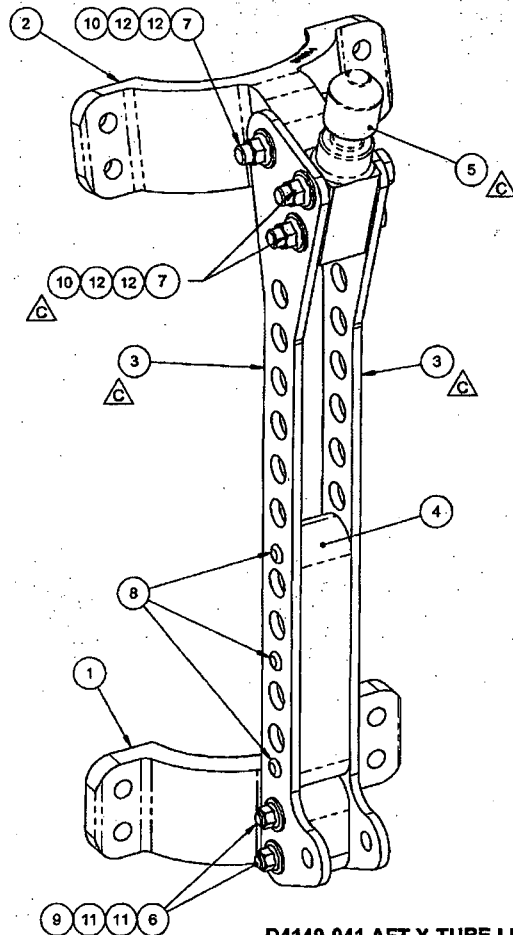


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐ Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐		AGAINST DEPARTMENT/PROCESS							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval				
Description Work Order Deviation				Disposition							
								Completed By			
								Lead hand / Supervisor Approval Verification			
								QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY									
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :							
Misidentified	☐	Past Due	☐								



D4149-041 AFT X-TUBE LUG ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-041" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 2.21 lbs

ITEM	QTY -041	P/N	DESCRIPTION
	X	D4149-041	AFT X-TUBE LUG ASSY
1	1	D3910-1	X-TUBE LUG
2	1	D4091-1	MOUNTING LUG
3	2	D4149-1	AFT X-TUBE LUG PLATE
4	1	D4149-3	SPACER
5	1	D4149-5	EYEBOLT STUD
6	2	AN3C12A	BOLT
7	3	AN4C13A	BOLT
8	3	MS20615-4M18	RIVET
9	2	MS21043C3	NUT
10	3	MS21043C4	NUT
11	4	NAS1149C0332R	WASHER
12	6	NAS1149C0432R	WASHER

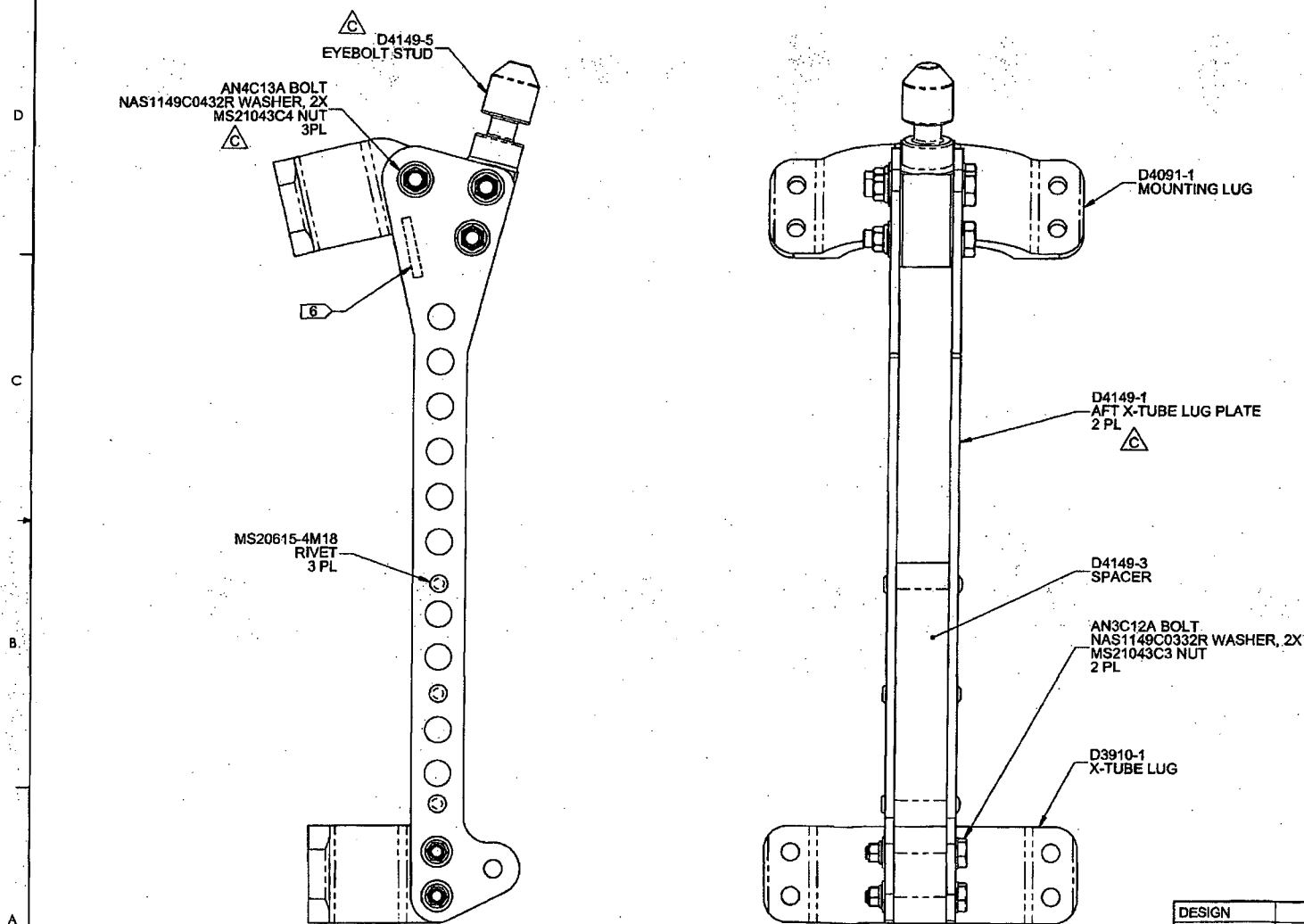
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WITHOUT NOTICE
WORK ORDER

135555-MLS
15-08-17

RELEASED
2011-02-24

C	HOLE DIA CHANGED TO 0.252" (D8-3); HOLE DIA CHANGED TO 0.250" (C8-5); REPLACED QTY(2) AN3C12A, MS21043C3 AND QTY(4) NAS1149C0332R WITH QTY(2) AN4C13A, MS21043C4 AND QTY(4) NAS1149C0432R (D3-1, D7-2)	SC	11.02.22
B	MS20615-4M18 WAS MS20615-4M20 (ZN D3-1 & B7-2); ADDED D4149-5 (SHT 5); D4149-5 WAS D3909-5 (ZN D3-1 & D7-2); REPLACED QTY(3) MS20615-4M18 WITH QTY(2) EACH AN3C12A, MS21043-3 AND QTY(4) NAS1149C0332R WASHER (ZN D3-1, C7-1, B7-2 & B3-2); Ø0.191 2 PL REPLACES Ø0.129 3 PL (ZN D8-3); REASON: SEE TR-D350-807-2 REV. B.	MB	10.07.05
A	NEW ISSUE	MB	10.06.18
REV.	DESCRIPTION	BY	DATE
DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	SC		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 1 OF 5
APPROVED		TITLE	SCALE
DE APPR.		AFT X-TUBE LUG ASSY	NTS
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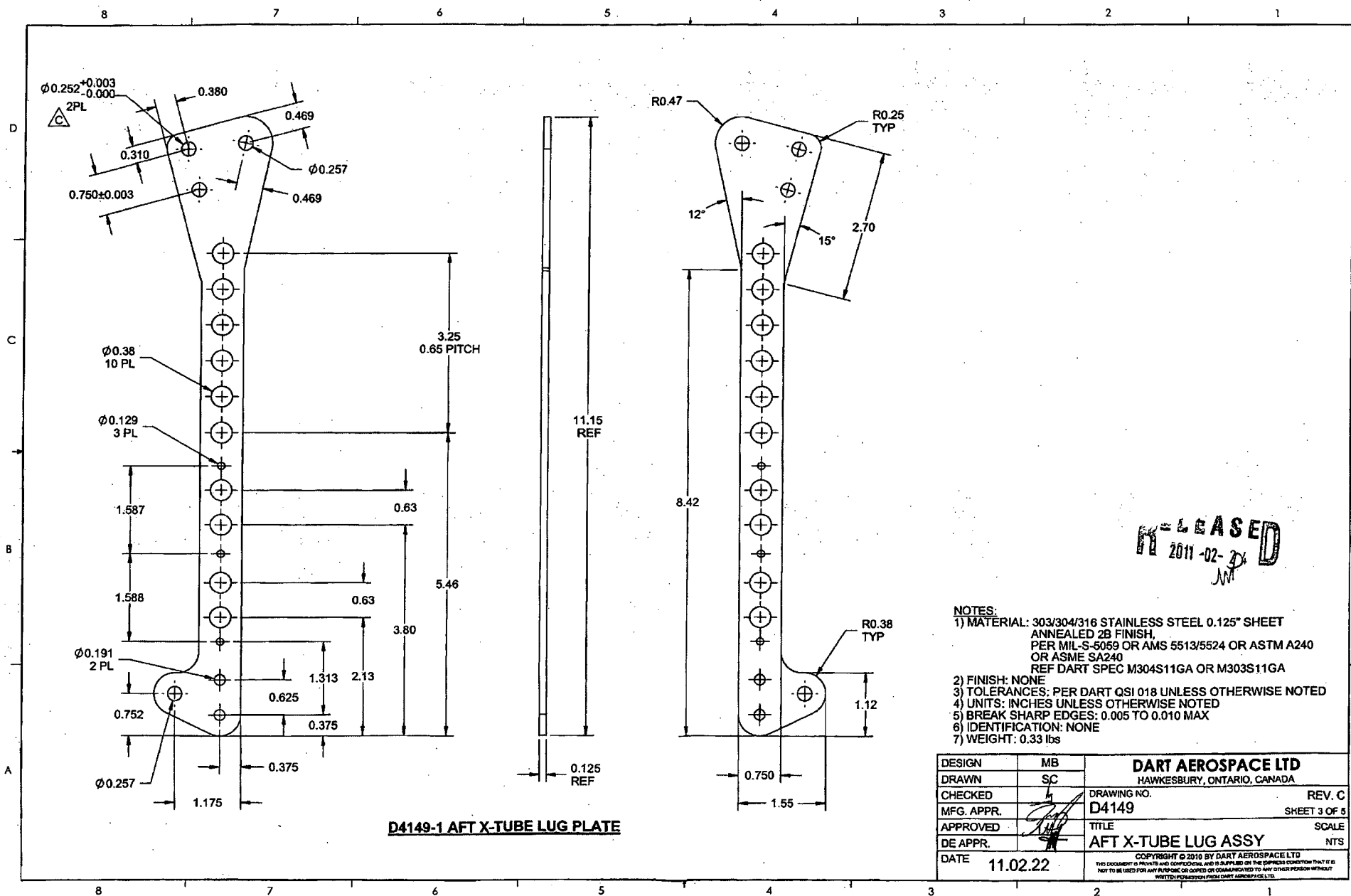


D4149-041 AFT X-TUBE LUG ASSY

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2011-02-24
MP

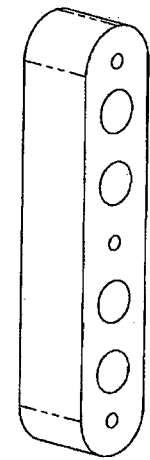
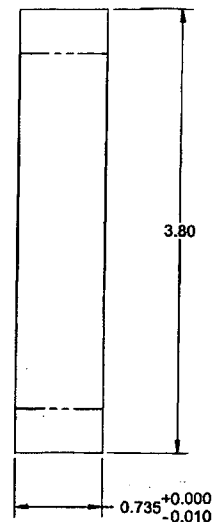
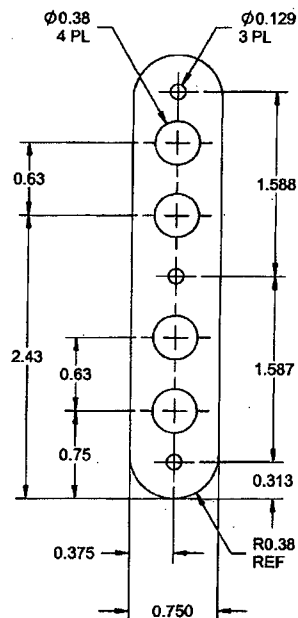
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DRAWN	SC		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 2 OF 5
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MFG. APPR.		D4149	SHEET 3 OF 5
APPROVED		TITLE	SCALE
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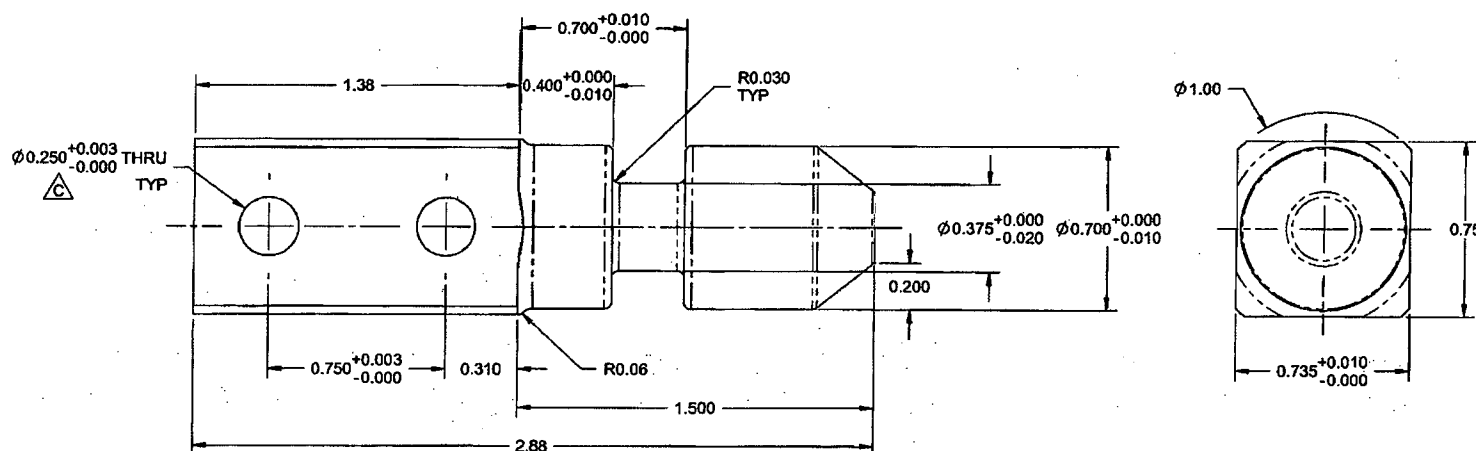
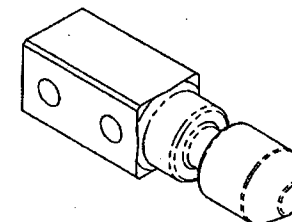


D4149-3 SPACER

RELEASED
2011-02-24

- NOTES:**
- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582
REF DART SPEC MS304B OR MS303B
 - 2) FINISH: NONE
 - 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 0.47 lbs

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 4 OF 5
APPROVED		TITLE	SCALE
DE APPR.		AFT X-TUBE LUG ASSY	NTS
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D4149-5 EYEBOLT STUD

RELEASED
2011-02-26
WPD

NOTES:

- 1) MATERIAL: 303/304/316 STAINLESS STEEL BAR PER ASTM A276 OR A582
REF DART SPEC MS304B OR MS303B
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4149-5" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 0.32 lbs

DESIGN	MB	DART AEROSPACE LTD	
DRAWN	SC	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D4149	SHEET 5 OF 5
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